10 CSR 10-2.230 Control of Emissions from Industrial Surface Coating Operations

(1) Application.

(A) This rule shall apply only in Clay, Jackson and Platte Counties.

(B) This rule shall apply to any installation with an uncontrolled potential to emit greater than 6.8 kg/day or 2.7 tons per year of volatile organic compounds (VOC) from industrial surface coating operations covered under this rule. This includes any installation which does not have an allowable VOC emission limit established under 10 CSR 10-6.060 or legally enforceable state implementation plan revision and has uncontrolled potential emissions greater than or equal to 6.8 kg/day or 2.7 tons per year. The uncontrolled potential to emit is the potential emissions (as defined) plus the VOC removed by emission control devices.

(C) This rule is not applicable to the surface coating of the following metal parts and products:

1. Exterior refinishing of airplanes;
2. Automobile refinishing;
3. Customizing top coating of automobiles and trucks, if production is less than thirty-five (35) vehicles per day; and
4. Exterior of marine vessels.

(2) Definitions of certain terms specified in this rule may be found in 10 CSR 10-6.020.

(3) General Provisions. No person shall emit to the atmosphere any VOC from any surface coating operation in excess of the amount allowed in section (4). This section will apply across all application areas, flashoff areas, and ovens used in any affected coating operation.

(4) Tables of Emission Limitations and Dates of Compliance.

(A) Table A: VOC Emission Limits Based on Solids Applied

Surface Coating Operation	Dates of Emission Limit lbs. VOC/gal. solids applied	Compliance (See Note 1)
Auto/light duty truck		
Ford Motor Company		
Primer Surfacer	15.1	12/24/87
Topcoat (passenger)	15.1	12/31/88
Topcoat (truck) (See Note 2)	15.1	12/31/88
General Motors Car		
Primer Surfacer	15.1	12/31/87
Topcoat	15.1	12/31/87

(B) Table B: VOC Emission Limits Based on Weight of VOC per Gallon of Coating (minus water and non-VOC organic compounds)

Surface Coating Operation	Emission Limit lbs. VOC/gal. coating (minus water & non-VOC organic compounds)	Dates of Compliance (See Note 1)
Large Appliance		
Topcoat	2.8	12/31/81
Final Repair	6.5	12/31/81
Magnet Wire	1.7	12/31/81
Metal Furniture	3.0	12/31/81
Auto/light duty truck		
Ford Motor Company		
Electrocoat prime	1.2	12/31/82
Topcoat (truck)	3.6	12/31/85
Topcoat (passenger)	3.6	12/31/86
Final Repair	4.8	12/31/85
Miscellaneous Metal Parts		
Extreme Performance and air dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82
General Motors Car		
Cathodic Electrocoat	1.2	12/31/82
Primer Surfacer	3.0	12/31/80
Topcoat	5.8	12/31/79
	5.0	12/31/81
Final Repair	6.5	07/01/79

	4.8	12/31/87
Plastic Fascia Topcoat	4.5	11/23/87
Miscellaneous Metal Parts		
Extreme performance and air dried Coatings	3.5	12/31/82
All other Coatings	3.0	12/31/82
Paper	2.9	12/31/81
Vinyl	3.8	12/31/81
Fabric	2.9	12/31/81
Coil	2.6	12/31/81
Can		
2 piece exterior	4.0	12/31/82
sheet basecoat	2.8	12/31/85
2 and 3 piece interior body spray	4.2	12/31/82
2 piece end exterior	4.2	12/31/82
3 piece side seam	5.5	12/31/82
end seal compound	4.2	12/31/82
	3.7	12/31/85
Railroad Cars, Farm Implements, Machinery, and Heavy Duty Trucks	3.5	12/31/82
Other Metal Parts		
Clear Coat	4.3	12/31/82
extreme performance and air dried Coatings	3.5	12/31/82
All other Coatings	3.0	12/31/82

Note 1. The emission limit associated with the latest compliance date for each surface coating process supersedes interim emission limits associated with earlier compliance dates.

Note 2. A formal commitment submitted to and received by the director prior to 12/31/88 to construct or modify the truck topcoat surface coating operation no later than 12/31/90 to meet the provisions of 10 CSR 10-6.070 or 40 CFR 60 subpart MM, whichever is more stringent, may be substituted for this emission limitation. The emission limit specified by the rules referenced in this note is 12.3 lbs. VOC per gallon of solids applied.

(5) Determination of Compliance. Compliance with section (4) of this rule shall be determined by the methods in (5)(A), (B) and (C) as applicable and appropriate.

(A) For subsection (4)(A), the calculation of daily volume-weighted emission performance for automobile and light-duty truck primer-surfacer and topcoat operations, shall be made according to procedures detailed in the EPA document entitled *Protocol for Determining the Daily Volatile Organic Compound Emission Rate for Automobile and Light Duty Truck Topcoat Operations* dated June 10, 1988.

(B) For subsection (4)(B)**)**

1. Compliance with emission limits may be demonstrated using the method referenced in 10 CSR 10-6.030 at (14)(C) using the one-hour bake. Emission performance shall be on the basis of a daily volume-weighted average of all coatings used in each surface coating operation as delivered to the coating applicator(s) on a coating line. The daily volume-weighted average ($DAVG_{VW}$) is calculated by the following formula:

$$DAVG_{VW} = \frac{\sum_{i=1}^{n}(A_i \times B_i)}{C}$$

Where: A = daily gal. each coating used (minus water and exempt solvents) in a surface coating operation.

B = lbs. VOC/gal. coating (minus water and exempt solvents).

C = total daily gal. coatings used (minus water and exempt solvents) in a surface coating operation.

n = number of all coatings used in a surface coating operation; or

2. Compliance with the emission limits in subsection (4)(B) may be demonstrated on a pounds of VOC per gallon of coating solids basis. The demonstration is made by first converting the

emission limit in subsection (4)(B) to pounds of VOC per gallon of coating solids as shown in the following three steps:

1)

$$\frac{\text{lbs. VOC per gallon of coating minus water and exempt solvents}}{\text{36 lbs. per gallon}} \times \frac{\text{(Emission Limit from (4)(B))}}{\text{(average density of solvents used to originally establish the emission limit.)}} = \text{volume fraction of VOC}$$

2)

$$\text{1-Volume fraction of VOC} = \text{Volume fraction of solids}$$

3)

$$\frac{\text{lbs. VOC per gallon of coating minus water and exempt solvents}}{\text{Volume fraction of solids}} \times \text{(Emission Limit from (4)(B))} = \frac{\text{lbs. VOC}}{\text{gallon of coating solids}}$$

This value is the new compliance figure. The VOC per gallon of coating solids for each coating used is then determined using the method referenced in 10 CSR 10-6.030(14)(C) using the one-hour bake. The composite daily volume-weighted average of pounds of VOC per gallon of coating solids as tested for in the actual coatings used is compared to the new compliance figure. Source operations on a coating line using coatings with a composite actual daily volume-weighted average value less than or equal to the new compliance figure are in compliance with this rule.

(C) As an alternative to the methods specified in subsections (5)(A) and (B), compliance with the emission limits specified in subsections (4)(A) and (B) may be demonstrated by the implementation of an emission reduction equivalency compliance plan which utilizes a daily weighted average of emissions from a single or combination of source operations, provided that**))**

1. All source operations involved in the plan are subject to the emission limits of this rule;

2. All source operations are part of the same installation;

3. The total actual volatile organic compound emissions from each twenty-four (24)-hour period do not exceed the sum of the allowable emissions determined from section (4) for each source operation for the same period;

4. Equivalent emission reductions are accomplished in the time intervals allowed in subsection (4)(B) as would be required for individual source operations;

5. After December 24, 1987, testing of raw materials, emissions and/or equipment must be performed prior to initiation of an alternate compliance plan to verify any equivalent emission reductions claimed. All test methods and procedures, to be acceptable for use in the equivalency determination, must receive prior review and must have been approved by the director. Failure to gain test method and procedure approval of the director will invalidate the equivalency claim.

6. The overall plan is approved by the director.

(6) Recordkeeping

(A) The owner or operator of a coating line shall keep records detailing specific VOC sources, as necessary to determine compliance. These may include:

1. The type and the quantity of coatings used daily;

2. The coating manufacturer's formulation data for each coating on forms provided or approved by the director;

3. The type and quantity of solvents for coating, thinning, purging and equipment cleaning used daily;

4. All test results to determine capture and control efficiencies, transfer efficiencies and coating makeup;

5. The type and quantity of waste solvents reclaimed or discarded daily;

6. The quantity of pieces or materials coated daily; and

7. Any additional information pertinent to determine compliance.

(B) Records such as daily production rates may be substituted for actual daily coating use measurement provided the owner submits a demonstration approvable by the director that such records are adequate for the purposes of this rule. This will apply for all surface coating industries until EPA issues national daily emissions recordkeeping protocols for specific industrial classifications.

(C) Records required under subsection (6)(A) and (B) shall be retained by the owner or operator for a minimum of two (2) years. These records shall be made available to the director upon request.

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EPA Rulemakings

CFR: 40 C.F.R. 52.1320(c)(79)(i)(B)

FRM: 59 FR 43480 (8/24/94), Correction notice 60 FR 16806 (4/3/95)

PRM: 57 FR 32191 (7/21/92)

State Submission: 11/20/91

State Proposal: 16 MR 989 (7/1/91)

State Final: 10 C.S.R. 10-2 (11/29/91)

APDB File: MO-100

Description: This revision updates this rule to include the correct reference method specified in 10 C.S.R. 10-6.030.

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CFR: 40 C.F.R. 52.1320(c)(70)(i)(A)

FRM: 54 FR 46232 (11/2/89) and 55 FR 7712 (3/5/90)

PRM: 54 FR 20613 (5/12/89)

State Submission: 12/18/87 and 12/19/88

State Proposal: 12 MR 991 (7/13/87), 13 MR 1268 (8/15/88)

State Final: 12 MR 1948 (12/14/87), 13 MR 1818 (11/14/88)

APDB File: MO-49

Description: The EPA approved changes to the regulation which: (1) deleted the 100 TPY applicability cutoff, (2) specified recordkeeping and test method requirements, (3) provided procedures for making equivalency calculations, and (4) enacted emission limit and compliance date changes applicable to Ford-Claycomo. The EPA approved the rule with the understanding that any alternative compliance plans would have to be submitted and approved by the EPA as SIP revisions [40 C.F.R. 52.1323(c)].

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CFR: 40 C.F.R. 52.1320(c)(25)(i)

FRM: 46 FR 20172 (4/3/81)

PRM: 45 FR 84099 (12/22/80)

State Submission: 9/2/80

State Proposal: 4 MR 1144 (11/1/79), 5 MR 367 (4/1/80)

State Final: 5 MR 295 (3/3/80), 5 MR 1123 (9/2/80)

APDB File: MO-12

Description: The EPA approved revisions to the regulation which added emission limitations for miscellaneous metal parts, railroad cars, farm implements and machinery, and heavy-duty trucks. The EPA raised the exemption level to 100 TPY.

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CFR: 40 C.F.R. 52.1320(c)(16)(xi)

FRM: 45 FR 24140 (4/9/80) and 45 FR 46806 (7/11/80) (correction)

PRM: 44 FR 61384 (10/25/79)

State Submission: 6/29/79

State Proposal: 4 MR 87 (2/1/79)

State Final: 4 MR 600 (7/2/79)

APDB File: MO-01

Description: The EPA approved a new regulation which established surface coating emission limits for automobiles and light-duty trucks, large appliances, magnetic wire, metal furniture, paper, vinyl, fabric, coil, and can manufacturing. Sources emitting less than 50 TPY were exempted. Provisions for alternative compliance plans were approved.

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Difference Between the State and EPA-Approved Regulation

None.